

NADEAU LAKE, FORT FAIRFIELD, AROOSTOOK COUNTY,
MAINE

BY OLOF O. NYLANDER

Nadeau Lake is situated in the northeastern part of Fort Fairfield, very near the boundary line between Maine and New Brunswick. This lake is about three-quarters of a mile long and less than a quarter of a mile wide, lying in a valley between hills and draining northward into McDonald's Brook.

In this small lake is probably the largest deposit of marl or bog lime in New England, being from three to twelve feet in thickness. The lime is mostly extracted from the water by a small plant *Chara cf. gracilior* which grows profusely over the bottom of that lake and when dead forms a deposit of lime on the bottom. There is a small bunch of trees at the southern end of the lake, otherwise the land is cleared and under cultivation almost to the water's edge. Most of the lake is drained so there is only a small basin of water in the middle and a small stream of water along the sides.

Mollusca are plentiful in the water and they have contributed in part to the making of the bog lime. I find in this part of Maine, that nearly every bog lake or pond has some shells that are peculiar to it, and my previous published lists in THE NAUTILUS, vol. XIV, 1901 and vol. XXII, 1909 confirms this statement.

Since September 8th, 1925, I have visited Nadeau Lake many times and the following species of shells were collected.

- Anodonta marginata* Say. Rather small.
Sphaerium sulcatum Lam. Common.
Sphaerium rhomboideum Say. Rare.
Pisidium variabile Prime. Common.

Valvata lewisii Currier. Found on *Chara fragilis* on the bottom of the lake.

Lymnaea obrussa decampi Streng. Common.

Planorbis hirsutus Gld. Large specimens, common.

Planorbis trivolvis Say. Common.

Planorbis campanulatus Say. Common.

Planorbis exacuus Say. Obtained only five specimens.

Planorbis parvus Say. Common.

Physa heterostropha Say. Small specimens.

I also revisited the Lovely Brook bog in Fort Fairfield in August 1925, and discovered a colony of *Planorbis crista* Linn., collecting about fifty specimens. The colony of *P. crista* in the Barren Brook bog, Caribou, still exists and ten specimens were obtained in August 1925. On the scanty vegetation growing on the marl bed along the water edge I found for the first time the small orchid *Liparis loeselli*. Thus I find that certain geological conditions are great factors bearing on the distribution of both the fauna and the flora.

MOLLUSCAN PROVINCES IN THE WESTERN UNITED STATES

BY JUNIUS HENDERSON

One working on the non-marine Mollusca of the Western United States is inevitably strongly impressed with the existence of a number of molluscan provinces, distinct in certain of their biological characteristics, though their boundaries, of course, are not sharply defined, and the region would perhaps be divided in different ways by different students, depending upon what particular groups of mollusks they happen to be studying. Looking at the subject in a larger way, there are some provinces upon which we may all agree.